Economic Corridors in South Asia: Exploring the Benefits of Market Access and Trade Facilitation

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South Asian Network on Economic Modeling (SANEM)

September 2011

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This report is prepared for the RIS, New Delhi.

Abstract

This paper shows that there are significant prospects of rise in intra-regional trade among the four Eastern South Asian countries. The partial equilibrium modelling exercise helps identify the products with high export potentiality. Simulation exercise based on a global general equilibrium model suggests that though there are prospects of welfare gains for India, Pakistan and Sri Lanka, there are risks of welfare loss for Bangladesh and other LDCs in South Asia out of FTA in goods under the SAFTA agreement because of the fact that the trade diversion effects could be larger than trade creation effects for these countries. However, such welfare loss could be well compensated by the rise in welfare due to improvement in trade facilitation among the South Asian countries. It also appears that the gains from trade facilitation are much bigger than the gains from trade liberalisation. Interactions with the stakeholders in Bangladesh helped identify a number of factors which are constraining trade in Eastern South Asia sub-region. These include inadequate facilities at the land and sea ports, weak physical infrastructure, inefficient bureaucracy, corruption and several forms of NTBs. Removal of such trade barriers though improvement in trade facilitation measures will generate significant rise in trade among these countries.

1. BACKGROUND

Eastern South Asia Sub-region (ESAS) comprising Bangladesh, Bhutan, India and Nepal is an emerging sub-region in Asia. Given its resources and strategic location, ESAS has the potential to become Asia's "powerhouse" in terms of trade and investment (Dubey et al, 2004; Sobhan et al, 2006). Bangladesh has led the way in South Asia in important areas of human development. Bhutan shows mutual exploration of energy and sharing the benefits in the region. India has become largest trading partner of all the South Asian countries. Countries in South Asia made impressive stride towards development of their economies in last two decades without much regional level interactions. Some of the studies indicate South Asian countries could perhaps gained much higher growth if regional level economic interactions were allowed to grow (Srinivasan, 2006). However, this is not the case as on date. Another group of studies call for greater interaction among ESAS countries for enhancement of trade and investment (Dubey et al, 2002; ADB, 2008).

The prospects of cooperation between Bangladesh and India seem to be brighter than ever as current governments of both countries have shown political will for it. Few areas of cooperation have been agreed upon during the last prime ministerial meeting between the two countries[2] and among them two important aspects are (i) better access to each other's markets, and (ii) improvement in physical connectivity. Cooperation in each of these areas can potentially result in significant economic and social benefits.

Against this backdrop, the general objective of this study is to analyze and document the potential impact on trade and economic growth arising from improved market access for Bangladesh to India and better physical connectivity among ESAS countries. The broad objectives are to explore the macroeconomic, sectoral and welfare impacts of (i) increased market access among the ESAS countries, where such improved market access would involve decline in tariffs and NTBs; and (ii) improved trade facilitation among ESAS countries in general,

[2] Refer, the Joint Communiqué issued on the occasion of the visit to India of Her Excellency Sheikh Hasina, Prime Minister of Bangladesh, dated 12 January 2010.

and Bangladesh and India in particular. The findings of the study would then help us better understand the market access aspect of regional trade flow and importance of trade facilitation in view of regional economic corridors in ESAS.

The research methodology involves application of partial equilibrium model and computable general equilibrium (CGE) model. A partial equilibrium model like the WITS/SMART model is applied to explore the impacts of better market access on bilateral trade among the ESAS countries at the 6-digit HS level. CGE model is used to address the welfare effects of regional integration in South Asia on the ESAS countries factoring in the trade facilitation issues. A global general equilibrium model, such as the GTAP model is used for this purpose. This study also conducts a field survey on trade facilitation at the firm level in Bangladesh in order to understand the importance of trade facilitation on sub-regional trade. A number of firms, involved in trade with India, Nepal and Bhutan, are interviewed through a structured questionnaire.

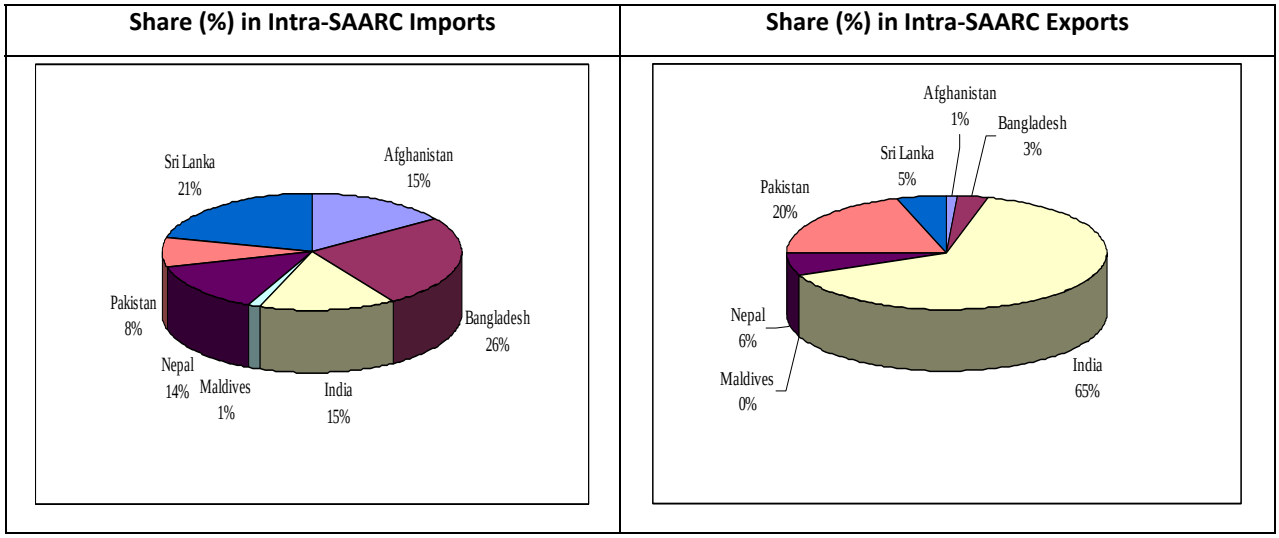
The organisation of this paper is as follows. Section II analyses the pattern on intra-regional trade in South Asia. Section III explores the potential of market access through free trade in goods under SAFTA using WITS/SMART partial equilibrium model. Section IV highlights the importance of trade facilitation in ESAS countries. Section V explores the welfare impact of regional integration in South Asia and the role of trade facilitation in enhancing the welfare gains. Section VI summarises the views of the stakeholders in Bangladesh with respect to the problems related to trade between Bangladesh and other ESAS countries. Finally, Section VII provides the policy implications and conclusion.

2. INTRA-REGIONAL TRADE IN SOUTH ASIA

South Asia has been characterized as a region of low intra-regional trade. In 1990, the intra-regional trade[3] was 2.91 percent, which increased to 5.3 percent in 2003; however it came down to 4.84 percent in 2008. The intra-regional trade intensity index[4] was 3.03 percent in 1990, increased to 6.21 percent in 2003 and then came down to 2.53 percent in 2008 (De and Raihan, 2010).

Despite a low intra-regional trade, the distribution of intra-regional trade in South Asia is also highly imbalanced. Figure 1 indicates that India is the largest exporter in South Asia accounting for 65 percent of the intra-regional export, whereas, Bangladesh's export to the region in 2008 was only 3 percent of the total regional exports. Bangladesh appears to be the largest importer in South Asia accounting for 26 percent of total intraregional import in 2008.

Figure 1: Country-wise Share (%) in Intra-SAARC Imports and Exports in 2008



Source: IMF DOTS

[3] Intra-regional trade is the percentage of intra-regional trade to total trade of the region, calculated using exports data. A higher share indicates a higher degree of dependency on regional trade.

[4] Intra-regional trade intensity index is the ratio of intra-regional trade share to the share of world trade with the region, calculated using exports data. An index of more than one indicates that trade flow within the region is larger than expected given the importance of the region in world trade.

Except Nepal and Bhutan, all other South Asian countries have their major export destinations outside of South Asia. Regional export constitutes only 4.87 percent of total exports from Bangladesh. The corresponding figure for India is 5.23 percent. Since, India is the major export destination for Nepal and Bhutan, Bhutan's exports to India comprise close to 100 percent of its total exports and for Nepal the corresponding figure is 71 percent. It also appears that trade among the South Asian countries is unequally distributed. Bangladesh trades very little with Bhutan, Nepal and Sri Lanka. India is the dominant import source for Bhutan and Nepal, and India is also one of the major import sources for Bangladesh. But, the trade with India is largely one-sided, as the volumes of imports from India to Bangladesh and Nepal are considerably very large, whereas the volume of exports from these countries to India are very low (Table 1).

Table 1: Trade among the South Asian Countries in 2007 (Millions US$)

To / From	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka	Total Exports to the region	Export to the region as a % of country's total export
Bangladesh	NA	0.06	523.69	0.06	1.29	96.89	17.59	639.57	4.87
Bhutan	14.6	NA	495.78	0.26	4.52	..	..	515.16	98.8
India	2063.79	70.84	NA	79.71	1237.1	1584.29	2594.19	7629.92	5.23
Maldives	..	..	1.98	NA	..	..	16.17	18.15	16.78
Nepal	60.84	2.52	562.81	0.05	NA	1.11	2.09	629.41	71.04
Pakistan	279.25	0.03	291.7	4.01	0.81	NA	208.57	784.37	4.4
Sri Lanka	22.74	0.14	515.83	50.89	0.18	55.4	NA	645.19	8.42
Total Imports from the region	2441.22	73.59	2391.79	134.98	1243.9	1737.69	2838.61		
Regional Imports as % of country's total import	13.85	13.55	1.09	12.31	33.13	5.33	24.93		

Note: * Data available for 2008; **Data available for 2009

Source: UN COMTRADE online

High tariff rates among the South Asian countries have long been pointed out as one of the major reasons behind the low intra-regional trade in South Asia. South Asia, as a region, has higher average tariff rates than in any other region in the world. It can thus be argued that reduction in the tariff barriers among the South Asian countries is likely to have important implications in terms of improved market access of these countries in their neighbouring countries.

One important aspect of the South Asian intra-regional trade is the presence of informal border trade, which has always been thought to be very high. There have been some studies on the informal border trade among the South Asian countries and it is pointed out that the informal and illegal trade between India and Bangladesh, between India and Nepal, between India and Sri Lanka could be significant proportions of the recorded trade (Pohit and Taneja, 2003; Taneja et al, 2004; Das and Pohit, 2006; World Bank, 2006).

3. ENHANCED MARKET ACCESS BETWEEN BANGLADESH, INDIA, NEPAL AND BHUTAN

3.1. The WITS/SMART Model

There is no denying that trade policy analysis is more robust when undertaken within a general equilibrium modelling framework. This can be seen as the first-best option as general equilibrium models, not only measure the first-round effects of simulated changes, but also the second-round effects which include inter-industry effects and macroeconomic adjustments. However, Nepal and Bhutan are not individually captured in the current version of the GTAP database. Consequently, the partial equilibrium modelling framework lends itself as a second-best option for the analysis of ESAS.

Milner et al. (2002) provides a simple analytical framework explaining the theory behind partial equilibrium modelling and notes that to adequately capture the interactions between sectors and elasticities of substitution between factors, a general equilibrium model would be desirable. However, due to scarcity of individual and regional CGE models for developing countries then partial equilibrium models would be alternative choices. Milner et al. (2002) also raise a valid observation that the database for general equilibrium models lacks the commodity detail to take account of the specific sensitive and special products. Despite its shortcomings, a partial equilibrium framework is more suitable as it allows the utilization of widely available trade data at the appropriate level of detail to capture the principle of special and differential treatment in the simulation analysis. It however remains true that although partial equilibrium

models have drawbacks, as a modelling approach they have the advantage of working at very fine levels of details such as at tariff line level.

For the purposes of this study the WITS/SMART partial equilibrium model is applied. The World Integrated Trade Solution (WITS) brings together various databases ranging from bilateral trade, commodity trade flows and various levels and types of protection. WITS also integrate analytical tools that support simulation analysis. The SMART simulation model is one of the analytical tools in WITS for simulation purposes. SMART contains in-built analytical modules that support trade policy analysis such as effects of multilateral tariff cuts, preferential trade liberalization and ad hoc tariff changes. The underlying theory behind this analytical tool is the standard partial equilibrium framework that considers dynamic effects constant. Like any partial equilibrium model, it has these strong assumptions allowing the trade policy analysis to be undertaken a country at a time.

The underlying analytics of the theory are clearly defined in Laird and Yeats (1986) and ECA (2000). The derivation begins with a basic trade model composed of simplified import demand and export supply functions and an equilibrating identity:

A simplified import demand function for country j from country k of commodity i:

$$M_{ijk} = f(Y_j, P_{ij}, P_{ik}) \quad (1)$$

The export supply function of commodity i of country k can be simplified as:

$$X_{ijk} = f(P_{ikj}) \quad (2)$$

The equilibrium in the trade between the countries is the standard partial equilibrium equation:

$$M_{ijk} = X_{ikj} \quad (3)$$

In a free trade environment, the domestic price of the commodity i in country j from country k would change with the change in an ad valorem tariff as follows:

$$P_{ijk} = P_{ikj}(1 + t_{ikj}) \tag{4}$$

In order to get the price equation, (4) is differentiated to obtain:

$$dP_{ijk} = P_{ikj} dt_{ikj} + (1 + t_{ikj}) dP_{ikj} \tag{5}$$

Equations (4) and (5) are substituted into the elasticity of import demand function:

$$\frac{\Delta M_{ijk}}{(M_{ijk})} = \alpha_i^m \frac{\Delta P_{ijk}}{(P_{ijk})} \tag{6}$$

Using (6), the change in imports can be obtained:

$$\frac{dM_{ijk}}{M_{ijk}} = \alpha_i^m \left(\frac{dt_{ijk}}{(1 + t_{ijk})} + \frac{dP_{ijk}}{P_{ijk}} \right) \tag{7}$$

In the similar process, with the elasticity of export supply function, the change in exports can be obtained:

$$\frac{dX_{ijk}}{X_{ijk}} = \alpha_i^x \left(\frac{dP_{ikj}}{P_{ikj}} \right)$$

3.2. The Simulation and Results

In the WITS/SMART model we simulate the SAFTA scenario. In this simulation bilateral tariff rates for the SAFTA member countries are reduced down to zero. A summary of the results of the simulation is reported in Table 5. It appears that under a full implementation of SAFTA, some of the South Asian countries are able to increase their exports within the region quite substantially. India appears to be the largest gainer from such scenario as her exports to this region increases by US$ 858 million. For Pakistan, Bangladesh and Nepal the rises in exports are US$ 169 million, US$ 122 million and US$ 90 million respectively. Sri Lanka's exports to the region rise, but because of the India-Sri Lanka bilateral FTA its exports to the Indian market rise in small amount. It is rather obvious that under such a scenario, except for Maldives and Sri Lanka, for all other countries the rise in their exports to India would constitute major shares of the rise in their total exports to the region.

Table 2: Increase in Exports and Imports among SAFTA countries under full SAFTA

(Thousand US$)

To / From	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka	Total Exports to the region	Rise in total export to the region as a % of the rise in export to India
Bangladesh		637.69	112354.3	16.39	918.84	7187.38	1198.28	122312.88	91.86
Bhutan	-		21693.89	-	113.13	84.88	0.01	21891.91	99.10
India	308829.02	62326.78		21173.76	124825.11	231657.51	109515.26	858327.44	-
Maldives	-	-	1245.87		-	58.81	3585.98	4890.66	25.47
Nepal	22.08	247.99	89542.48	2.67		699.28	30.63	90545.13	98.89
Pakistan	37194.78	-	126458.46	318.64	640.96		4667.98	169280.82	74.70
Sri Lanka	4301.66	0.81	2946.48	16549.71	973.74	7040.32		31812.72	9.26
Total Imports	350347.54	63213.27	354241.48	38061.17	127471.78	246728.18	118998.14		

Source: WITS/SMART simulation

Since in this paper we are more interested in looking into the impact of sub-regional cooperation in the context of four South Asian countries, for further analysis we concentrate on Bangladesh, Bhutan, India and Nepal. In the following sub-sections we identify the top products at 6-digit HS level which would experience rise in exports from any of these four countries to other three countries in this sub-region under a scenario of a full implementation of SAFTA. The

WITS/SMART model also provides information on the sectoral increase in bilateral trade among the ESAS countries under such a scenario at the 6-digit HS classification.

It should however be mentioned that, one of the major barriers to the free market access is the existence of list of sensitive products which are excluded from tariff preferences in any regional trade agreement. According to Bayson *et al* (2006) there is a strong political economy of the selection of excluded sectors. When countries are allowed to choose sectors that can be excluded from tariff preferences in an FTA, domestic lobbies make sure that the sectors in which they may not withstand competition from the union partner are the ones that get excluded. Under the SAFTA the member countries maintain lists of such sensitive products. Bangladesh, India and Nepal maintain different sensitive lists for LDCs and non-LDCs. The numbers of products under the sensitive lists are reported in Table 3.

Table 3: Sensitive Lists among the SAFTA Members

Country	Total number of products at 6 digit HS Code level in the Sensitive List		Coverage of Sensitive List as % of Total HS Lines	
	For Non-LDCs	For LDCs	For Non-LDCs	For LDCs
Bangladesh	1,254	1,249	24.0	23.9
Bhutan	157	157	3.0	3.0
India	865	744	16.6	14.2
Maldives	671	671	12.8	12.8
Nepal	1,335	1,299	25.6	24.9
Pakistan	1,191	1,191	22.8	22.8
Sri Lanka	1,079	1,079	20.7	20.7

Source: SAFTA treaty

In the subsequent discussion while doing the analysis on market access, the products which fall under the sensitive lists of the export destination countries are also identified with a view to understanding the graveness of the existence of sensitive list in hampering free market access. In recent years, India has, however, reduced the number of products under its sensitive list for the LDCs from 744 to 480. Also, under the India-Sri Lanka bilateral free trade agreement, Pakistan-Sri Lanka bilateral free trade agreement, India-Bhutan bilateral free trade agreement and India-Nepal trade agreement, the numbers of products under the sensitive lists are much lower than those under SAFTA. In the subsequent analysis, therefore, where applicable, the sensitive lists of the respective bilateral trade agreements are taken into consideration.

3.2.1. Rise in Exports from Bangladesh to Bhutan, India and Nepal

Bangladesh exports only 17 products to Bhutan at the 6-digit HS level and the amount of exports is only US$ 0.64 million (Table 4). Under SAFTA, Bangladesh's exports to Bhutan would rise by 100 percent. Only 10 products would constitute 99 percent of this rise in exports to Bhutan. None of these 10 products fall into the sensitive list of Bhutan.

Table 4: Exports of Top 10 Products from Bangladesh to Bhutan

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
392410	266.54	603.33	336.79	126.36
621141	241.76	484.28	242.53	100.32
190530	50.57	63.90	13.34	26.37
392590	9.56	21.46	11.91	124.61
621131	9.49	20.78	11.29	118.92
040299	13.56	18.71	5.15	38.00
850710	7.67	11.35	3.68	47.89
620199	3.99	7.51	3.52	88.12
340119	5.19	7.19	2.01	38.72
740819	11.30	12.92	1.62	14.35
Total for top 10 products exported to Bhutan	**619.61**	**1251.43**	**631.82**	**101.97**
Total exports to Bhutan (17 products)	**636.30**	**1273.99**	**637.69**	**100.22**
Share of top 10 products in total exports to Bhutan (%)	**97.38**	**98.23**	**99.08**	

Source: WITS/SMART simulation

Bangladesh's export to Nepal in the base year is only US$ 5.9 million which would experience only 15 percent rise under the SAFTA scenario with no sensitive list (Table 5). Top 25 products would constitute more than 94 percent of the rise in exports. However, 15 out of these top 25 products fall into the sensitive list of Nepal, restricting much of the potential of rise in export from Bangladesh to Nepal.

Table 5: Exports of Top 25 Products from Bangladesh to Nepal

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
850710	649.54	954.65	305.11	46.97
850720	139.39	209.83	70.44	50.54
392620	39.18	102.64	63.47	162.01
530310	2915.72	2971.26	55.54	1.9
300490	144.09	182.17	38.08	26.43
040229	177.76	215.68	37.92	21.33
621142	51.27	87.78	36.51	71.2
520911	968.83	1002.87	34.05	3.51
650590	54.52	88.52	34	62.36

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
650699	55.01	85.63	30.63	55.68
850610	29.05	53.13	24.09	82.92
880330	36.52	60.26	23.73	64.99
392690	19.75	37.85	18.1	91.68
621143	20.56	34.67	14.11	68.63
392190	25.07	38.35	13.28	52.99
340111	29.8	41.5	11.7	39.28
850780	17.66	27.25	9.6	54.36
620433	8.42	15.56	7.14	84.74
620920	8	15	7	87.49
854590	50.26	57.1	6.84	13.6
621111	7.93	14.73	6.8	85.66
521215	65.78	70.82	5.05	7.67
580710	14.95	19.57	4.62	30.92
520819	34.63	38.84	4.21	12.15
650510	5.98	10.02	4.05	67.71
Total for top 25 products exported to Nepal	**5569.63**	**6435.68**	**866.05**	**15.55**
Total exports to Nepal (62 products)	**5905.46**	**6824.30**	**918.84**	**15.56**
Share of top 25 products in total exports to Nepal (%)	**94.31**	**94.31**	**94.25**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

Bangladesh exports 403 products to India. Under SAFTA, Bangladesh's exports to India would rise by US$ 112 million, a rise of around 45 percent from the base (Table 6). Top 50 products would comprise around 92 percent of the rise in exports. Under India's new sensitive list for LDCs only 10 products of Bangladesh would not receive any tariff preferences. This suggests that India's sensitive list would not restrict much of the potential of rise in export from Bangladesh to India under SAFTA as far as the current pattern of trade is concerned. However, there are views from the garments manufactures in Bangladesh that, despite the fact that the current volume of export of garments from Bangladesh to India is very low and therefore they are not in the top 50 export items as listed in Table 6, there are much prospects of rise in exports in this category in the future if several non-tariff barriers are removed in India. Most of the garments and textile items (under HS codes 61 and 62) for which Bangladesh has comparative advantage are still in India's new sensitive list.

Table 6: Exports of Top 50 products from Bangladesh to India

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
030559	353.77	23897.25	23543.48	6654.95
310210	29860.28	37157.09	7296.81	24.44
251710	2930.67	9761.3	6830.63	233.07
080290	4865.87	10732.74	5866.87	120.57
281410	40336.27	44947.5	4611.24	11.43
530710	7878.84	12293.61	4414.77	56.03
220290	953.92	4873.88	3919.96	410.93
720421	2875.85	5521.64	2645.79	92
530310	24898.6	27472.1	2573.5	10.34
150790	2961.11	5405.11	2444.01	82.54
850710	10082.6	12513.33	2430.74	24.11
690890	199.43	2575.64	2376.21	1191.53
030267	14041.91	16352.49	2310.59	16.45
030268	14041.91	16352.49	2310.59	16.45
030269	14041.91	16352.49	2310.59	16.45
080260	4865.87	7159.36	2293.49	47.13
630510	18359.05	20507.83	2148.78	11.7
151620	2231.26	3953.99	1722.73	77.21
030421	266.17	1754.16	1487.99	559.03
030422	266.17	1754.16	1487.99	559.03
030429	266.17	1754.16	1487.99	559.03
030613	152.27	1476.29	1324.02	869.53
530720	727.64	2048.41	1320.77	181.52
151190	909.53	2205.06	1295.53	142.44
410449	1760.32	2991.98	1231.66	69.97
740811	4631.24	5658.45	1027.21	22.18
740400	3010.56	3834.63	824.07	27.37
630492	900.29	1604.89	704.6	78.26
721041	11.06	691.2	680.14	6149.58
050690	21.17	567.43	546.25	2580.2
340119	435.21	970.96	535.74	123.1
850720	1343.54	1877.02	533.48	39.71
410799	631.21	1150.43	519.22	82.26
240120	43.52	537.2	493.68	1134.31
690810	39.57	532.39	492.81	1245.33
620462	17.08	449.95	432.87	2534.97
170390	58.31	485.39	427.09	732.48
340111	1987.28	2413.88	426.6	21.47
600622	41.14	450.07	408.92	993.96
620319	130.9	533.86	402.96	307.84
690790	282.16	672.03	389.87	138.17
700510	994.66	1380.56	385.9	38.8
720221	1068.09	1418.74	350.66	32.83
631010	699.1	1023.72	324.62	46.43
410719	443.8	754.62	310.82	70.03
721550	537.98	835.54	297.56	55.31
691110	74.46	362.74	288.28	387.19
853670	784.28	1072.43	288.16	36.74
300691	784.28	1070.35	286.08	36.48
392690	784.28	1070.35	286.08	36.48
Total for top 50 products exported to India	**219882.52**	**323232.90**	**103350.38**	**47.00**
Total exports to India (403 products)	**250932.56**	**363286.71**	**112354.15**	**44.77**
Share of top 50 products in total exports to India (%)	**87.63**	**88.97**	**91.99**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

3.2.2. Rise in Exports from Bhutan to India and Nepal

In the WITS database there was no record of export from Bhutan to Bangladesh in recent years. Therefore, in this sub-section the rises in exports from Bhutan to India and Nepal are analysed. Bhutan exports only 44 products to India and its base exports to India is US$ 21.6 million which would rise by around 25 percent under the SAFTA scenario (Table 7). Under India's new sensitive list for LDCs, 5 out of top 10 Bhutan's export products would not receive tariff preference in India, which would restrict much of the potential of rise in exports from Bhutan to India.

Table 7: Exports of Top 44 products from Bhutan to India

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
720719	9806.07	15421.36	5615.29	57.26
720229	10650.41	15511.73	4861.32	45.64
284910	11320.7	14665.03	3344.34	29.54
151190	1679.97	3061.99	1382.02	82.26
540269	8144.43	9365.44	1221.01	14.99
441029	3315.69	4311.14	995.45	30.02
151620	2469.49	3243.02	773.53	31.32
720221	1291.3	2034.14	742.84	57.53
720610	1201.97	1860.19	658.22	54.76
151590	859.26	1362.68	503.43	58.59
370610	1731.8	2142.3	410.5	23.7
220110	3015.75	3309.35	293.6	9.74
220210	1045.49	1219.6	174.11	16.65
441032	514.3	678.37	164.06	31.9
440810	691.42	839.62	148.21	21.43
110100	146.64	230.59	83.96	57.26
250510	206.69	272.6	65.91	31.89
200990	118.41	177.68	59.27	50.05
252100	114.96	160.49	45.52	39.6
252329	148.14	190.75	42.61	28.76
070190	419.66	453.77	34.11	8.13
481149	75.93	104.35	28.41	37.42
481029	130.68	156.3	25.63	19.61
480269	153.96	176.43	22.48	14.6
090830	30.36	52.5	22.14	72.94
480220	142.12	162.66	20.54	14.45
481099	78.47	94.05	15.58	19.85
440399	169.39	182.32	12.94	7.64
440200	151.5	162.06	10.56	6.97
391721	50.06	57.75	7.7	15.37
252210	16.54	23.34	6.8	41.12
440349	59.9	64.47	4.57	7.63
441223	20.77	25.06	4.29	20.64
230990	10.2	14.36	4.15	40.7
200899	5.34	8.58	3.23	60.52
482390	6.41	8.84	2.43	37.82
441219	10.57	12.97	2.39	22.64
200929	6.86	9.11	2.25	32.86
441213	9.91	12.15	2.24	22.6
391729	3.47	4.06	0.59	16.84
441139	2.5	2.99	0.49	19.76

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
940330	9.4	9.4	0	-0.02
940350	17.96	17.95	-0.02	-0.08
740811	28028.44	27903.66	-124.78	-0.45
Total for top 44 products exported to India	**88083.29**	**109777.18**	**21693.89**	**24.63**
Total exports to India (44 products)	**88083.29**	**109777.18**	**21693.89**	**24.63**
Share of top 44 products in total exports to India (%)	**100.00**	**100.00**	**100.00**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

Bhutan exports only 8 categories of products to Nepal and the amount of export is only US$ 0.1 million (Table 8). Under SAFTA, its export to Nepal would rise by around 20 percent. The top most export product from Bhutan to Nepal would fall into Nepal's sensitive list.

Table 8: Exports of Top 8 Products from Bhutan to Nepal

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
620791	85.42	143.80	58.38	68.35
270400	420.55	460.60	40.05	9.52
852110	16.37	22.59	6.22	38.01
441890	7.26	10.11	2.84	39.12
920790	10.22	12.70	2.48	24.28
900691	20.11	22.52	2.40	11.94
252010	7.69	8.25	0.56	7.34
920910	0.84	1.03	0.19	22.26
Total for top 8 products exported to Nepal	**568.46**	**681.59**	**113.13**	**19.90**
Total exports to Nepal (8 products)	**568.46**	**681.59**	**113.13**	**19.90**
Share of top 8 products in total exports to Nepal (%)	**100.00**	**100.00**	**100.00**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

3.2.3. Rise in Exports from India to Bangladesh, Bhutan and Nepal

India's export products are much more diversified compared to other South Asian countries. India exports 2841 products at the 6-digit HS level to Bangladesh. The list of top 50 products is reported in Table 9. It appears that these top 50 products constitute more than 67 percent of the rise in exports to Bangladesh. India's exports to Bangladesh would rise by US$ 309 million, a rise of 25 percent from the base. 34 products out of the top 50 export products from India would fall into Bangladesh's sensitive list. In fact, the top 10 products would not receive any tariff preferences in Bangladesh.

Table 9: Exports of Top 50 Products from India to Bangladesh

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
350691	1456.22	55290.4	53834.17	3696.84
271011	46977.98	77911.62	30933.64	65.85
520942	38256.43	52980.93	14724.5	38.49
100190	70084.59	78002.02	7917.42	11.3
870422	15897.21	21693.42	5796.22	36.46
520521	45834.72	51500.65	5665.94	12.36
871120	17718.65	23314.76	5596.11	31.58
481092	6711.73	11533.79	4822.06	71.85
070310	26002.52	30686.29	4683.77	18.01
401120	18942.37	23358.34	4415.97	23.31
730840	1978.88	5811.05	3832.17	193.65
730610	7245.37	10812.42	3567.05	49.23
870210	7720.14	11185.85	3465.71	44.89
852812	6474.04	9904.33	3430.29	52.99
760110	36495.95	39898.65	3402.71	9.32
520511	19518.32	22503.41	2985.09	15.29
720839	23049.35	25970.84	2921.5	12.67
480257	8174.07	10743.93	2569.86	31.44
271019	3606.08	5969.1	2363.02	65.53
520939	2982.62	5324.36	2341.75	78.51
854460	4371.71	6455.88	2084.17	47.67
090420	14890.08	16892.15	2002.07	13.45
620443	2773.26	4537.14	1763.87	63.6
040210	3487.71	5141.98	1654.27	47.43
100630	60462.81	62108.57	1645.77	2.72
521213	3937.58	5525.87	1588.3	40.34
850432	5420.58	6912.1	1491.52	27.52
841581	801.06	2291.65	1490.59	186.08
390210	14564.88	16008.45	1443.57	9.91
320416	15909.78	17329.21	1419.44	8.92
870390	7165.52	8512.22	1346.7	18.79
261800	7518.73	8793.1	1274.37	16.95
380810	3898.01	5137.42	1239.41	31.8
521214	1548.06	2782.25	1234.19	79.73
852813	3680.38	4893.38	1213	32.96
720719	6216.13	7414.22	1198.09	19.27
071340	14625.6	15780.02	1154.42	7.89
210690	3629.03	4780.16	1151.13	31.72
760720	2420.1	3533.2	1113.1	45.99
251810	465.25	1553.42	1088.17	233.89
551513	370.25	1401.12	1030.88	278.43
550931	4282.32	5308.25	1025.93	23.96
481910	410.39	1434.93	1024.55	249.66
070960	450.63	1442.06	991.43	220.01
151319	3121.8	4060.19	938.39	30.06
730519	214.45	1145.3	930.86	434.07
721710	2321.55	3244.46	922.91	39.75
841989	1885.83	2801.16	915.33	48.54
190110	2042.32	2916.47	874.15	42.8
291521	482.35	1312.95	830.6	172.2
Total for top 50 products exported to Bangladesh	**598495.34**	**805845.43**	**207350.09**	**34.65**
Total exports to Bangladesh (2841 products)	**1248754.13**	**1557583.16**	**308829.02**	**24.73**
Share of top 50 products in total exports to Bangladesh (%)	**47.93**	**51.74**	**67.14**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

India exports 832 products to Bhutan and its export to Bhutan would rise by US$ 62 million. Top 25 products would comprise around 74 percent of such rise (Table 10). Bhutan's sensitive list is much liberal. Only 3 out of top 25 such products would fall into Bhutan's sensitive list.

Table 10: Exports of top 25 products from India to Bhutan

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
721041	1686.23	11865.30	10179.08	603.66
870422	6462.88	11916.30	5453.42	84.38
252210	507.38	4097.74	3590.36	707.62
271000	13059.38	16423.78	3364.40	25.76
730300	1473.05	3958.56	2485.51	168.73
230230	795.09	2889.61	2094.52	263.43
100620	8459.03	10535.26	2076.23	24.54
110100	447.48	2372.47	1924.99	430.19
870600	1735.51	3387.44	1651.93	95.18
030559	428.59	1821.12	1392.53	324.91
261900	129.02	1504.31	1375.30	1065.98
870332	343.29	1509.08	1165.79	339.59
100590	348.07	1478.18	1130.11	324.68
010290	304.27	1352.58	1048.31	344.53
151590	1522.71	2395.06	872.35	57.29
100110	3184.04	4021.38	837.34	26.30
440200	1883.82	2641.83	758.01	40.24
340119	620.61	1353.94	733.33	118.16
730890	3545.66	4219.13	673.47	18.99
841229	2422.47	3028.12	605.65	25.00
220300	2424.32	3022.00	597.68	24.65
731300	240.48	786.68	546.20	227.13
070990	1541.57	2010.62	469.05	30.43
220710	369.01	837.43	468.42	126.94
480411	588.64	1036.92	448.28	76.16
Total for top 20 products exported to Bhutan	**54522.60**	**100464.84**	**45942.26**	**84.26**
Total exports to Bhutan (832 products)	**135465.01**	**197791.80**	**62326.79**	**46.01**
Share of top 25 products in total exports to Bhutan (%)	**40.25**	**50.79**	**73.71**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

India exports 3429 products to Nepal. Under SAFTA India's export to Nepal would rise by US$ 125 million, a rise of around 19 percent from the base (Table 11). Top 50 products would constitute more than 55 percent of such rise. Like Bangladesh, Nepal's sensitive list is also much restrictive. 41 export products from India out of the top 50 products would fall into Nepal's sensitive list.

Table 11: Exports of top 50 Products from India to Nepal

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
600320	26110.93	32810.48	6699.55	25.66
871120	15113.52	20414.04	5300.52	35.07
870210	3940.83	8717.95	4777.12	121.22
090300	292.07	4257.7	3965.64	1357.79
271119	20866.77	24343.49	3476.72	16.66
300390	32782.47	36199.26	3416.79	10.42
870600	10160.27	13227.5	3067.22	30.19
800700	840.5	3582.37	2741.87	326.22
392310	6396.77	8883.55	2486.79	38.88
720890	21649.36	23230.63	1581.28	7.3
870323	1818.14	3378	1559.86	85.79
621142	6104.03	7512.85	1408.82	23.08
551449	1766.4	3068.73	1302.33	73.73
350691	1206.27	2505.7	1299.43	107.72
271129	785.18	2061.35	1276.16	162.53
730890	8413.19	9663.72	1250.53	14.86
100590	2411.62	3591.95	1180.33	48.94
120510	7549.34	8691.8	1142.46	15.13
521215	15599.1	16520.11	921.02	5.9
040229	3878.98	4796.04	917.05	23.64
870321	3818.06	4733.25	915.19	23.97
240110	6565.97	7406.69	840.72	12.8
870421	1654.25	2481.82	827.58	50.03
690890	1970.61	2794.75	824.14	41.82
230400	11693.51	12509.92	816.4	6.98
251810	147.62	950	802.38	543.53
480240	192.64	978.5	785.86	407.93
720918	6491.08	7206.73	715.65	11.03
210690	2111.38	2810.6	699.22	33.12
251520	29.23	721.32	692.09	2367.75
320890	512.96	1183.44	670.48	130.71
870322	2082.01	2729.38	647.38	31.09
392620	1298.14	1944.55	646.42	49.8
110100	377.5	1017.98	640.48	169.67
700529	2712.14	3321.23	609.1	22.46
071350	201	798.58	597.59	297.31
870110	5751.1	6343.14	592.04	10.29
870332	84.66	642.11	557.45	658.49
870490	3582.63	4133.77	551.14	15.38
850680	2271.04	2818.92	547.88	24.12
621143	2824.21	3371.08	546.87	19.36
100630	8853.45	9375.94	522.49	5.9
720719	9876.64	10394.22	517.58	5.24
080132	160.98	677.59	516.61	320.91
690810	680.32	1195.63	515.31	75.74
70310	3267.25	3775.68	508.43	15.56
721399	5993.15	6491.22	498.07	8.31
300320	681.62	1178.36	496.74	72.88
121291	348.36	839.23	490.88	140.91
481910	1274.39	1755.42	481.04	37.75
Total for top 50 products exported to Nepal	**275193.63**	**344038.28**	**68844.65**	**25.02**
Total exports to Nepal (3429 products)	**667906.63**	**792731.69**	**124825.07**	**18.69**
Share of top 50 products in total exports to Nepal (%)	**41.20**	**43.40**	**55.15**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

3.2.4. Rise in Exports from Nepal to Bangladesh, Bhutan and India

Nepal exports only 48 products to Bangladesh and the amount is only US$ 26 thousand (Table 12). Under SAFTA its export to Bangladesh would rise by 84 percent. The top 10 products constitute 99 percent of the rise in export. 9 out of these top 10 products would fall into Bangladesh's sensitive list.

Table 12: Exports of Top 10 products from Nepal to Bangladesh

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
870322	17.55	30.50	12.96	73.86
940490	4.42	10.64	6.22	140.93
870333	2.03	3.48	1.44	71.03
611710	0.36	0.75	0.39	109.78
848180	0.47	0.75	0.28	58.94
851790	0.50	0.75	0.25	49.40
940360	0.10	0.26	0.15	148.54
481910	0.19	0.30	0.11	57.75
481019	0.14	0.21	0.08	57.78
482090	0.10	0.16	0.06	56.86
Total for top 10 products exported to Bangladesh	**25.85**	**47.79**	**21.94**	**84.87**
Total exports to Bangladesh (48 products)	**26.28**	**48.36**	**22.08**	**84.01**
Share of top 10 products in total exports to Bangladesh (%)	**98.35**	**98.82**	**99.37**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

Under SAFTA, Nepal's export to Bhutan would rise by US$ 221 thousand, a 45 percent rise from the base export (Table 13). Nepal exports only 29 products to Bhutan and the top 10 products would comprise 89 percent of the rise in export. None of these 10 products fall into the sensitive list of Bhutan.

Table 13: Exports of Top 10 Products from Nepal to Bhutan

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
940430	18.26	59.10	40.84	223.65
190211	187.52	223.63	36.11	19.25
620199	39.09	73.49	34.40	88.01
730300	79.22	105.62	26.41	33.33
630621	36.08	52.63	16.56	45.89
340119	60.51	76.03	15.52	25.64
630629	42.23	56.59	14.36	34.02
621131	11.99	26.23	14.24	118.77
621141	11.63	23.43	11.80	101.50
640299	11.31	22.33	11.02	97.42

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
Total for top 10 products exported to Bhutan	**497.83**	**719.07**	**221.25**	**44.44**
Total exports to Bhutan (29 products)	**548.23**	**796.22**	**247.99**	**45.23**
Share of top 10 products in total exports to Bhutan (%)	**90.81**	**90.31**	**89.22**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

Nepal exports 532 products to India. Under SAFTA, Nepal's export to India would rise by US$ 89.5 million, a 29.5 percent rise over its base exports (Table 14). The top 25 products would constitute around 72 percent of such rise. Under India-Nepal bilateral trade agreement the sensitive list of India for Nepal is very liberal. None of the top 25 export products of Nepal fall into that sensitive list.

Table 14: Exports of Top 25 Products from Nepal to India

HS Tariff Line Code at 6 digit level	Export Before ($ '000)	Export After ($ '000)	Increase In Export ($ '000)	% rise in Exports
090830	9096.19	14347.73	5251.55	57.73
220290	16519.10	21755.05	5235.95	31.70
721041	11924.80	15901.40	3976.60	33.35
090240	2884.44	6407.66	3523.22	122.15
392321	8894.20	12376.72	3482.52	39.15
390690	8641.92	12084.40	3442.48	39.83
721049	6008.42	9377.08	3368.66	56.07
550921	17059.54	20420.90	3361.36	19.70
291732	10844.46	13768.58	2924.11	26.96
230990	7427.25	10251.54	2824.29	38.03
730610	19387.51	22184.86	2797.35	14.43
600129	5320.47	8035.54	2715.08	51.03
381220	4980.98	7439.91	2458.94	49.37
721790	4408.28	6750.50	2342.22	53.13
090230	2886.69	5114.08	2227.39	77.16
760410	12505.81	14642.27	2136.46	17.08
071340	8143.79	10194.44	2050.65	25.18
380610	4984.10	6809.26	1825.16	36.62
091010	3855.36	5537.33	1681.98	43.63
392350	2559.46	3738.64	1179.18	46.07
210690	716.99	1858.18	1141.20	159.17
441032	3688.73	4824.98	1136.25	30.80
391721	7376.78	8473.48	1096.69	14.87
190219	3383.56	4416.56	1033.00	30.53
392329	2108.32	3078.40	970.08	46.01
Total for top 25 products exported to India	**185607.15**	**249789.49**	**64182.37**	**34.58**
Total exports to India (532 products)	**303275.03**	**392817.51**	**89542.48**	**29.53**
Share of top 25 products in total exports to India (%)	**61.20**	**63.59**	**71.68**	

Note: The products fall into the sensitive list are highlighted.

Source: WITS/SMART simulation

4. TRADE FACILITATION IN ESAS COUNTRIES

The costs of trading across borders in South Asia, especially among the ESAS countries, are high. The issue of trade facilitation is thus very important to enhance trade flows among these countries. It is important to note that import duties are continuously falling in most product categories in these countries and the scopes for gain through tariff reductions are being limited. However, there are significant scopes for gains through the reduction in transaction costs and faster transportation.

Limão and Venables (2001) found a link between the quality of infrastructure and transport costs—and thus concluded that infrastructure investments are important for export-led economic growth. However, Subramanian and Arnold (2001) argued that differences in logistics performance are driven only in part by poor quality of physical infrastructure services such as road, rail, waterways, port services, and interfaces. The inadequacies often are caused by (non-tariff) policy and institutional constraints—such as procedural red tape, inadequate enforcement of contracts, poor definition and enforcement of rules of engagement, asymmetry in standards, delays in Customs, delays at ports and border crossings, pilferage or lack in transit, corruption, and highly restrictive protocols on movement of cargo. Ahmed and Ghani (2010) suggest that one of the key challenges facing South Asia is higher trade cost. Improved infrastructure and growth through improved connectivity, coupled with stronger institutions and less conflict and corruption would allow South Asia to share its benefits widely.

De and Raihan (2010) showed that improved trade facilitation coupled with regional transit would help increase the trade between India and Bangladesh. There is strong evidence that improving the efficiency of Customs and administrative procedures and simplification of trade-related documentation can facilitate trade between the two countries. The augmented gravity model shows that a 10 percent reduction in the trade-related documentation could result in a 7.31 percent increase in bilateral trade, and 10 percent reduction in inefficiency of clearance process by border control agencies, including Customs might lead to a 3.91 percent increase in

trade between India and Bangladesh. The strongest impact on bilateral trade would be coming from a regional transit in South Asia. This study shows that the regional transit would help increase Bangladesh's export by 3 percent in South Asia. Taking all together, it is found that 1 percent improvement in trade facilitation would increase 4 percent export of Bangladesh.

Despite the improvements, trade facilitation indicators in South Asia remain substantially poorer than those achieved in other region of the world. According to the Logistic Performance Index (LPI), South Asia is just ahead of Sub-Saharan Africa and well behind all other regions (Table 15). In terms of all sub-indicators of LPI, South Asia is much behind East Asia and Pacific.

Table 15: Logistic Performance Index: South Asia vs. Other Regions in 2010

Int. LPI Rank	Country	LPI	Customs	Infras-tructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
1	Europe & Central Asia	2.74	2.35	2.41	2.92	2.6	2.75	3.33
2	Latin America & Caribbean	2.74	2.38	2.46	2.7	2.62	2.84	3.41
3	East Asia & Pacific	2.73	2.41	2.46	2.79	2.58	2.74	3.33
4	Middle East & North Africa	2.6	2.33	2.36	2.65	2.53	2.46	3.22
5	South Asia	2.49	2.22	2.13	2.61	2.33	2.53	3.04
6	Sub-Saharan Africa	2.42	2.18	2.05	2.51	2.28	2.49	2.94

Source: LPI 2010, World Bank

According to the Doing Business surveys there has been substantial progress in streamlining trade in some South Asian countries over the last few years. However, the progress has not been equally spread across the region. Bangladesh and India experienced the most marked reductions in import documentation and the time required to process imports. In both countries, the time required for processing imports, from arrival at the port to final destination, have been reduced, and the number of documents required for imports have also been reduced. Bangladesh and India also achieved smaller but still significant improvements in export trade facilitation. Trade costs in both countries fell for both exports and imports though the cost reductions were much larger for imports. However, Nepal showed very little change in its trade facilitation parameters though there appeared to be some increase in the documentation required for exports.

Despite the improvement, trade facilitation parameters in Bangladesh, remain poorer than for India (Table 16). According to the LPI 2010, Bangladesh was behind India but ahead of other South Asian countries. Nepal's performance was the worst. However, according to the Enabling Trade Index 2010 of World Economic Forum, Bangladesh and Nepal were the worst performing countries in South Asia (Table 17).

Table 16: LPI: South Asian Countries in 2010

International LPI Rank	Country	Overall LPI	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
47	India	3.12	2.7	2.91	3.13	3.16	3.14	3.61
79	Bangladesh	2.74	2.33	2.49	2.99	2.44	2.64	3.46
110	Pakistan	2.53	2.05	2.08	2.91	2.28	2.64	3.08
137	Sri Lanka	2.29	1.96	1.88	2.48	2.09	2.23	2.98
143	Afghanistan	2.24	2.22	1.87	2.24	2.09	2.37	2.61
147	Nepal	2.2	2.07	1.8	2.21	2.07	2.26	2.74

Note: Ranking is among 155 countries

Source: LPI 2010, World Bank

Table 17: The Enabling Trade Index 2010

Enabling Trade Rank Index Ranking	Countries	Overall Index	Sub Indices							
			Market Access		Border Administration		Transport and Communications Infrastructure		Business Environment	
			Rank	Score	Rank	Score	Rank	Score	Rank	Score
84	India	3.81	115	3.42	68	3.98	81	3.34	58	4.48
99	Sri Lanka	3.59	107	3.68	79	3.71	86	3.27	100	3.68
112	Pakistan	3.39	120	3.24	73	3.85	92	3.14	117	3.31
113	Bangladesh	3.38	52	4.37	100	3.21	117	2.53	114	3.41
118	Nepal	3.27	49	4.42	118	2.71	107	2.76	121	3.19

Note: Ranking is among 125 countries

Source: World Economic Forum

5. THE WELFARE IMPACT OF REGIONAL INTEGRATION IN SOUTH ASIA AND THE ROLE OF TRADE FACILITATION

5.1. Welfare Implications of Regional Integration in South Asia: Review of Studies

Baysan *et al* (2006) argue that the economic case for SAFTA is relatively weak. The authors point out that the economies in South Asia are relatively small in relation to the world both in

terms of the GDP and trade flows. Though in terms of population, the region is substantial (one fifth of the world) the current per-capita incomes are tiny so that the economic size of the region remains small: less than one twentieth of the world in terms of the GDP. And if India is taken out of the picture, this proportion drops to 0.4 percent. The authors further argue that the probability that most efficient suppliers of the member countries are within the region is slim. Therefore, the probability that the FTA is likely to be largely trade diverting is quite high. The second reason relates to the relatively high levels of protection among the SAARC economies. If the country participating in a regional arrangement were itself open, it would not suffer from trade diversion even if it were tiny. It is, however, evident that the level of protection within the SAARC region remains high in all countries. Also there are problems of selection of excluded sectors and stringent Rules of Origin.

Empirical studies on the quantitative assessments on SAFTA (and on SAPTA as well) differ significantly in terms of the methodologies employed. Three major types of methodologies have been used: gravity models, partial equilibrium models and general equilibrium models.

The gravity models basically try to explain bilateral trade flows with a set of explanatory variables that try to predict the impact of the arrangement on bilateral trade flows[5]. Gravity models, for the analysis of any RTA, have been used widely to predict the impact of the agreements on the bilateral trade flows. The studies that employ the gravity model include Srinivasan and Canonero (1995), Sengupta and Banik (1997), Hassan (2001), Coulibaly (2004), Hirantha (2004), Tumbarello (2006), Rahman (2003), Rahman *et al* (2006) and Rodriguez-Delgado (2007). The findings of these studies have been mixed. For example, studies by Srinivasan and Canonero (1995), Sengupta and Banik (1997) predicted that the impact of a South Asian FTA on trade flows would be small for India but much larger on the smaller countries. Sengupta and Banik (1997) predicted a 30 percent increase in the official intra-SAARC

[5] Typically, the exercise involves estimating a bilateral trade-flow equation with bilateral trade (imports, exports or total trade at the aggregate or sector level) as the dependent variable and country characteristics such as the gross domestic products, population, land area, distance, the commonality of language or cultural ties and the existence of preferential trade arrangements as independent variables. Once estimated, the equation can then be used to predict the impact of a union between country pairs that did not have such a union during the sample period.

trade and as much as 60 percent if illegal trade became a part of official trade. Coulibaly (2004) found net export creation, and Tumbarello (2006) and Hirantha (2004) found net trade creation from SAPTA. On the other hand, Hassan (2001) found net trade diversion effect from SAPTA, while Rahman (2003) found the dummy variable for South Asia to be insignificant, indicating that a regional integration is unlikely to generate significant trade expansion in this region. Rahman *et al* (2006) used an augmented gravity model to identify trade creation and trade diversion effects originating from SAPTA. It was found that there was significant intra-bloc export creation in SAPTA; however, at the same time there was evidence of net export diversion in SAPTA. It was also appeared that Bangladesh, India and Pakistan were expected to gain from joining the RTA, while Nepal, Maldives and Sri Lanka were negatively affected. Rodríguez-Delgado (2007) evaluated the SAFTA within the global structure of overlapping regional trade agreements using a modified gravity equation. It examined the effects of the Trade Liberalisation Programme (TLP) which started in 2006. The study predicted that SAFTA would have a minor effect on regional trade flows. The gravity model simulation suggests that SAFTA Trade Liberalisation Programme would influence regional trade flows mainly by increasing India's exports, and imports from Bangladesh and Nepal.

It should, however, be pointed out that studies based on the gravity model to estimate the welfare gains from regional trading arrangements (RTAs) are methodologically flawed. Firstly, the left hand side of the gravity equation is the bilateral trade, not the welfare. But, the concepts of 'trade creation' and 'trade diversion' directly relate to the welfare of the country in question. Therefore, gravity models can not actually estimate the welfare effects of any RTA, and therefore not capable of estimating the trade creation and trade diversion impacts of RTAs.

The major partial equilibrium studies on RTA in South Asia are by Govindan (1994), DeRosa and Govindan (1995), Pursell (2004) and World Bank (2006). The advantage with these models is that they are generally based on disaggregated data, and are also flexible enough which facilitates sector-specific study. However, the major problem with these models is that they ignore general-equilibrium interactions, and thus can't capture the inter-sectoral effects on the

economy. A partial equilibrium model for food sector, used by Govindan (1994), shows the effect of preferential liberalisation within the region on intraregional trade in food. The study finds that such preferential liberalisation would generate welfare gains through increased trade in food within the region. The analysis by DeRosa and Govindan (1995), however, shows that the welfare gains are much higher when the member countries also go for unilateral liberalisation on a non-discriminatory basis. A partial equilibrium analysis on the cement industry by Pursell (2004) suggests that the preferential liberalisation of cement industry between India and Bangladesh would lead to substantial gains through increased competition within the regional market.

With a view to exploring the potentials of India-Bangladesh bilateral FTA, World Bank (2006) provides a comparative assessment between Bangladesh and India with respect to a few industries like cement, light bulbs, sugar, and RMGs. The partial equilibrium simulation results suggest that in the case of cement, lights bulbs and sugar the likely effects of an FTA between Bangladesh and India seem to be an expansion of Indian exports to Bangladesh, but no exports from Bangladesh to India. This is mainly because Indian export prices for these products are substantially lower than ex-factory before-tax prices of the same or similar products in Bangladesh. The simulations for RMGs predicted increased Bangladeshi exports to India, but also increased RMG exports from India to Bangladesh. The study finds that a FTA will bring large welfare gain for consumers in Bangladesh provided there is adequate expansion of infrastructure and administrative capacity at custom borders. The study however cautions that the benefits of such a FTA to Bangladesh could be wiped out if it has the effect of keeping out cheaper third-country imports, i.e., from East Asia, and such trade diversion costs can be huge. The study suggests that the only way to minimise the trade diversion costs is through further unilateral liberalisation.

One very interesting implication emerges from the World Bank (2006) study that suggests India's having comparative advantage in RMG over Bangladesh, but still India has been very reluctant in allowing Bangladesh to export RMG in its own market. In recent time, India,

however, has allowed Bangladesh, under tariff-rate-quota, to export one million pieces of RMG to its market without paying any duties. But, such a volume of exports appears to be very small while considering Bangladesh's total RMG exports to the world market.

The studies based on computable general equilibrium (CGE) models predict the effects of the trading arrangement on all variables including production, consumption, trade flows in all sectors of the economy as also on welfare. The studies that apply the CGE model to SAFTA analysis are Pigato *et al*. (1997), Bandara and Yu (2003), and Raihan and Razzaque (2007). All these three studies employed the Global Trade Analysis Project (GTAP) database and model, though they differ in details due to the evolution of the GTAP itself. Pigato *et al* (1997) find that SAFTA would produce benefits for member nations though unilateral trade liberalisation would yield larger gains. The study by Bandara and Yu (2003) finds that, in terms of real income, SAFTA would lead to a 0.21 percent and 0.03 percent gains for India and Sri Lanka respectively, while Bangladesh would lose by 0.10 percent. However, the rest of South Asia (comprising Pakistan, Nepal, Bhutan and Maldives) would gain by 0.08. The authors also endorse the view that South Asian countries might gain much more from unilateral trade liberalisation and multilateral liberalisation than from SAFTA. Raihan and Razzaque (2007) also use the global general equilibrium model (GTAP model) in explaining the welfare effects of any regional trading arrangements. The main contribution of their paper was to decompose the welfare effects of SAFTA (as calculated from the GTAP simulation results) into trade creation and trade diversion effects for individual South Asian countries.[6] It appears that Bangladesh would incur a net welfare loss from the SAFTA scenario. Though, for Bangladesh there was a positive trade creation effect, the negative trade diversion effect would be large enough to offset the positive gain. However, all other South Asian countries would gain from SAFTA. The gain for India would

[6] It should, however, be noted that the original GTAP framework does not provide any estimates of trade creation and trade diversion aspects of the total welfare effects. In order to estimate these two effects the authors made some adjustments in the GTAP model. The GTAP model provides a net welfare estimate of the SAFTA simulation which is a sum of the trade creation and trade diversion effects. With a view to isolating the trade creation effect from the total welfare effect a separate simulation was run where necessary adjustments in the GTAP closure were made so that the imports to all the South Asian countries from all over the world (except from the South Asian countries) were held fixed. The welfare effects from this scenario were nothing but the trade creation effects for individual South Asian countries. This trade creation effect was then deducted from the total welfare effect in the original simulation to get the estimate of the trade diversion effect.

be the largest as far as any individual country is concerned. Raihan and Razzaque (2007) also explore the possible reasons for the large trade diversion effects for Bangladesh. From the GTAP simulation results it appears that under SAFTA, imports from China and other low cost sources (all over the world) would decline while that from India would increase significantly, which indicates, as far as the imports into Bangladesh are concerned, a replacement of low lost cost import sources by a high cost source. However, two caveats should be kept in mind while qualifying these GTAP simulation results: firstly, the GTAP database does not allow enough dis-aggregation of commodities, and secondly, since the model is a comparative static model, potential new trade (or more precisely the dynamic effects) cannot be captured.

It appears from the analysis of the studies based on CGE models on SAFTA that most of these studies predict a welfare loss for Bangladesh, which is primarily driven by a large trade diversion effect that dominates over the trade creation effect. The insights, which can be derived from these CGE models, have been very useful since these models take into account the inter-sectoral and inter-regional effects of any regional trading arrangement like SAFTA.

5.2. Welfare Analysis of SAFTA in Global General Equilibrium Model: Incorporation of Trade Facilitation

In order to explore the effects of trade facilitation together with FTA in goods under SAFTA a global CGE modeling technique, namely the GTAP model (Hertel, 1997) has been applied. GTAP model is the best possible way for the *ex ante* analysis of the economic and trade consequences of comprehensive multilateral or bilateral trade agreements. An elaboration on the GTAP model is provided in Annex 1. This study applies version 7 of the GTAP database which uses 2004 as the base. Data on regions and commodities are aggregated to meet the objectives of this study. The version 7 of GTAP database covers 57 commodities, 113 regions/countries, and 5 factors of production. The current study has maintained the 57 commodities classification but 113 regions have been aggregated into 8 as shown in Annex 2 and Annex 3, respectively.

One scenario is considered in this study: a full FTA in goods among the South Asian countries plus a cut in trade cost for intra-SAARC goods trade by 25 percent.[7] The welfare effects are reported in Table 18. Since the shock in the GTAP model has two sub components the welfare effects are also decomposed for these two sub-components. The welfare effects of tariff cuts on the South Asian counties out of SAFTA are consistent with the results of the earlier empirical studies (for example, Raihan and Razzaque, 2007). The negative welfare effect for Bangladesh is because of the larger trade diversion effect than the trade creation effect. Also, rest of South Asia comprising Nepal, Bhutan, Afghanistan and Maldives, will also incur small welfare loss. The biggest gain from tariff cut appears to be for India. Now, incorporation of trade facilitation results in welfare gain for all the countries under consideration. Bangladesh's welfare loss from tariff liberalization in SAFTA turns into a net welfare gain because of cut in trade cost. India enjoys the biggest gain out of trade facilitation in South Asia.

Table 18: Welfare Effects from Tariff Cut and Trade Facilitation in SAFTA

(Million US$ in 2004 price)

Countries	Tariff cut	Trade facilitation	Total gain	Gain from trade facilitation as % of total gain
Bangladesh	-254.05	1080.24	826.19	131
India	898.32	2185.42	3083.74	71
Pakistan	283.66	769.49	1053.15	73
Sri Lanka	521.21	1406.52	1927.73	73
Rest of South Asia	-1.94	1311.71	1309.77	100

Source: GTAP simulation result

The aforementioned analysis underscores the need for improved trade facilitation among the South Asian countries to reap the benefit of regional integration. It appears that the gains from trade facilitation are much bigger than mere tariff cut in South Asia. For Bangladesh, gain from trade facilitation is 131 percent of the total gain. For rest of South Asia and India such figures are 100 percent and 71 percent respectively.

[7] In the GTAP framework, such reduction in trade cost is introduced by shocking on the transaction cost of the bilateral trade. In this regard, the "ams" - import-augmenting "technical change" in the Armington nest (which can be used to lower the effective price of imported products) is shocked.

6. TRADE FACILITATION IN ESAS AND IMPLICATIONS FOR BANGLADESH: INTERVIEWS OF STAKEHOLDERS IN BANGLADESH

Non-Tariff Barriers (NTBs) refer to the wide and heterogeneous range of policy interventions other than border tariffs that affect and distort trade of goods, services, and factors of production. For Bangladesh being the only South Asian country without any bilateral FTA (Free Trade Agreement) with other South Asian countries, NTBs are crucial in the context of intensifying its trade under SAFTA (South Asian Free Trade Area). One of the main reasons of SAFTA not being able to enhance intra-regional trade at the desired level is the presence of NTBs as SAFTA is yet to address the NTB issues directly. The NTBs, distorting exports from Bangladesh to her neighbouring countries, mostly have to do with standards, testing and certification procedures in food processing, textiles and other such areas. Other major NTBs faced by Bangladeshi exporters include licensing, classification of goods, custom valuation, countervailing duties. Besides the lack of trade facilitation is also acting as a NTB.

As part of the current research several interviews were conducted with different types of stakeholders including policy makers, exporters, importers, clearing and forwarding (C&F) agents, mediator between exporters and importers were conducted to capture their views on the issue of trade facilitation involving trade between Bangladesh and three other South Asian countries namely India, Nepal and Bhutan. The interviews were carried out on the basis of a questionnaire that includes information about the respondent and firm, information on trade of the firm, problems in the process of trade such as time and cost in custom clearance, inland transportation, and suggestions for improvement by the respondent. Though the views of stakeholders, who were interviewed, cannot be generalized because the number of interviews is very limited, information from stakeholders' interview revealed some imperative issues related to trade with India, Nepal and Bhutan. The information collected from the interviews can be used to understand the dynamics of trade facilitation in this part of the world.

6.1. Mr.” Y”, Policy Maker, Ministry of Commerce, Government of Bangladesh

Discussion with an important policy maker at the Ministry of Commerce, Government of Bangladesh helped to summarise the major NTBs that Bangladeshi exporters face in the Indian market. These are discussed below:

- For the export of cross section of products including cement, gelatine, condensed milk, electrical appliances, mineral water, steel products, leather products, X-ray equipments, dry cell battery and thermometers to India, prospective exporters are required to obtain license regarding compliance of quality standards from concerned agency which is often highly time and cost-consuming.

- For the export of agricultural products to India, there are requirements of bio-security and sanitary and phyto-sanitary requirement for import permit. Eligibility for import permit requires risk analysis of the products which is a complex process and lacks transparency. India continues import licensing of about 600 items on the ground that restrictions are needed to ensure protection for “human, animal or plant life or health”. Imports of nearly all livestock, agricultural and food products require some kind of phyto-sanitary or sanitary certificate and import permit under the general supervision of the Ministry of Agriculture of India.

- For processed food products, compliance of Food Adulteration (Prevention) Act 1954 of India requires shelf life to be not less 60 percent of original shelf life at the time of import. Determination of shelf life is often done arbitrarily and without transparency.

- In the case of pre packaged products (such processed foods, cosmetics, toiletries, spices, etc.), all commodities, imported into India, shall carry the following declarations: (a) name and address of the importer; (b) generic or common name of the commodity packed; (c) net quantity in terms of standard unit of weights and measures. If the net

quantity in the imported package is given in any other unit, its equivalent in terms of standard units shall be declared by the importer; (d) month and year of packing in which the commodity is manufactured or packed or imported; and (e) maximum retail sale price at which the commodity may be sold to the ultimate consumer. This price shall include all taxes local or otherwise, freight, transport charges, commission payment to dealers, and all charges towards advertising, delivery, packing, forwarding and the like, as the case may be.

- Rule 32 of the Prevention of Food Adulteration Rules (PFA), 1955 of India deals with packing and labeling of foods. This rule alone has 30 provisos and provisos within provisos. In addition there are also cross-references to other rules. These rules prescribe the contents to be specified on the label, the size of the label, the design of the label, the areas specified for display panels, details of colours and flavours, trade name or description of food contained in the package, names of ingredients used in the product by weight and volume etc. Goods are cleared only on receipt of the test report. No certificate from the country of origin is accepted. The results of the laboratory tests cannot be challenged. Separate regulations have been enacted for different food items.

- For textile and textile products exported to India, there is a requirement of pre-shipment inspection certificate from textile testing laboratory accredited to the National Accreditation Agency of the country of origin. Non-availability of the certificate requires testing from the notified agencies in India for each and every consignment. In some cases, even certificates by EU accredited labs on this account have been rejected by Indian Customs and such consignments are subjected to repeat tests in India. In addition, Textile (consumer protection) Regulation of 1988 imposes some strict marking requirements for yarns, fibres, fabrics imported into India.

- In the case of pharmaceutical products exported to India, there are stringent requirements of drug registration with the Central Drug Standard Control Organization,

which involve an arduous and highly time consuming procedure. Foreign manufactures must register and subject their premises to inspection along the lines of rules prepared by the BIS.

- For the export of jute products to India, there is a requirement of a certificate from exporting country regarding content of non-homogenate hydrocarbon (jute batching oil) which should not exceed 3 percent by weight. In the case of jute bags/sacks, Indian authority asks for special labelling requirements so that each jute bag/sack carries machine stitched marking of country of origin.

- The exports of chemical fertilizer and lead acid batteries to India requires environment-related certificate. For the leather, leather goods and melamine products, Indian authority asks for chemical testing which is often extremely time-consuming. Exports of poultry, dairy products and meat (frozen, chilled or fresh) there is a requirement of import permit from the Department Animal Husbandry and Dairy of India.

- There are cases of non-acceptance of SAFTA certificate issued by the Export Promotion Bureau (EPB) of Bangladesh by the Indian authority at Akhaura/Agartala border customs for the exports of hand pump, tube well filters, cast iron pipes, cast iron bends & T's water heaters, plastic pipes of various diameters, power paddy thrasher, power tiller, hand spray, engine filter-oil, fuel and air.

6.2. Mr." X", C&F Agent and CEO of "A" Enterprise, Benapole

Mr. "X" is a C&F agent working at the Benapole land port. He has been working as C&F agent for many renowned companies since 1977 and has enormous experience of trading of various types of products with India. In the interview he talked about various issues relating to trade with India through Benapole port.

Mr. “X” highlighted the issue of one-sidedness in the trading process between India and Bangladesh. In the case of export to India, export documents, those are sent to Indian importers, are re-verified and after getting the confirmation from Indian importer the products are uploaded for export. But in the case of export to Bangladesh, there is no re-verification of documents by the Bangladeshi importers. The additional formalities with the documents in the former case usually take more time and in most cases cause harassment for the Bangladeshi exporters.

He also drew attention to the shortage of capacity at Benapole warehouse. According to him, the capacity of warehouse is about 37 thousand ton at a time, whereas on average 60-70 thousands ton products enter through Benapole land port. This creates huge congestion of loaded trucks, and as a result unloaded products are kept in open spaces. This truck congestion causes time loss as well as monetary cost for the trader. According to him, this adds an additional cost to the importers in Bangladesh which is TK 1000 per 10-ton truck and TK 1200 per 12-ton covered van each day. Besides, no air-conditioned storage is available at Benapole port which is very important for storing products like pharmaceuticals.

He also addressed the bureaucratic problem, inefficiency of the customs officers, shortage of efficient manpower and poor infrastructure at Benapole land port and under utilization of other land ports such as Hili, Shonamasjid etc. Benapole is the largest land port in Bangladesh and is also the leading land port from trading perspective. So, Mr. X urged to modernize this port and also to officially announce it as the head office of all land ports. Besides he made some suggestions for facilitating trade between India and Bangladesh such as initiating automation in trade documents processing, infrastructural development of inland transportation, and inception of entry visa in India.

6.3. Mr. “K”, Chairman, “C” Logistics Ltd.

Mr. “K”, Chairman of a well known logistics company, shared his experiences of trading with India in the interview. This logistics company is functioning as a mediator between the trader of India and Bangladesh for the last 18 years.

Mr. “K” is quite disappointed with the processing of trade documents at the customs house. According to him, documents processing and clearance at the customs should be completed within 1-2 days whereas generally it takes 3-4 days. Sometimes situation gets worse when customs clearance takes almost 8-10 days. He mentioned the problem of misusing HS product code by the customs officers. Due to their inefficiency the customs officer wrongly put a product under different HS code which causes harassment to the trader. He also pointed at the enormous corruption prevailed in customs and urged for immediate action against corruption. Though he is dissatisfied with the performance of customs, custom related cost seems satisfactory to him. He also expressed his disappointment in visa processing in the Embassy of India and urged for more liberal visa processing system.

Moreover he talked about the poor condition of the Chittagong sea port. He said that Chittagong sea port was encumbered with outdated equipments, insufficient and inefficient manpower. Mentioning the importance of this sea port, he suggested that the port should be modernized with up-to-date equipments, more efficient work force. He also gave his opinion in favor of initiating shifting basis work schedule to effectively increase the operating hour of customs and ports.

6.4. Mr. “I”, Chief Executive, “Z” Paints

Mr. “I” is the Chief Executive of a renowned company which has been producing and distributing paints in the local market for the last 6 years. For paint production, this company

imports raw materials from India mostly through sea route and a small portion is imported by road through Benapole land port.

Mr. “I” is also dissatisfied with the documents processing and customs clearance at the Chittagong sea port. According to him, customs clearance at the sea port generally takes 4-5 days though sometimes it takes 12-15 days which cause great problem to the trader. Mr. “I” also pointed at the inefficiency of the customs officials to identify accurate HS code for the sophisticated products such as chemicals which are used as raw materials in paint production.

He counseled for further improvement in inland transportation to facilitate trade. Besides he also advised to give importance on electronic submission and processing of trade documents, elimination of corruption amongst customs and government officials, increasing operating hours at customs and sea ports and increasing the efficiency of customs officials as well as workers.

6.5. Mr. “S”, Executive Director, “U” Pharmaceuticals (Bangladesh) Ltd.

Mr. “S” is the Executive director of a pharmaceutical company. This company has been operating in Bangladesh since 2004 and importing its necessary all raw materials from India. Mr. “S” talked about his experience of doing business in Bangladesh and also about India-Bangladesh trade.

He said that the customs, in both India and Bangladesh, are encumbered with quite similar type of bureaucratic problems and corruptions. He revealed that the use of ‘speed money’ in the customs clearance is quite common feature and sometimes it crates harassment to importers if they deny bribing the officials. He also revealed that importers can avoid the import duty by bribing some unscrupulous officials which adversely affect government revenue collection. Besides, he also mentioned the poor infrastructure and inadequate storage capacity of Benapole land port in either side of the border.

He mentioned some advantages of investment in India such as investment in Northeastern part (seven sisters region) will enjoy 30 percent subsidy and also tax holiday for 10 years. But Bangladeshi investors are yet to explore those opportunities.

Mr. "S" recommended modernization of Benapole land port, development of other land ports, improvement of inland transportation and immediate steps to minimize corruption for facilitating trade. He also advocated the initiation of transshipment facility in Chittagong sea port since this would generate a way of government revenue earnings.

6.6. Mr. "J", Chief Operating Officer, "N" Exchange Environment Management (BD) Ltd.

Mr. "J" is the country chief operating officer of a multinational company and the parent company is from India. The parent company is doing business in around 20 countries and this company has been operating in Bangladesh for the last 5-6 years. This company usually imports engineering products for industries and water management machineries from India mostly through Chittagong sea port and some through Benapole land port.

Mr. "J" was not satisfied with vessel management and unloading of consignment from the vessels at the sea port. He told that unloading of vessel usually would take 7-10 days and even 15 days in some cases whereas he thought that this should be done within 4-5 days. He pointed at the inefficiency of management of port authority and workers' unrest at the port for this delay. He also disclosed that bribery was quite common feature in customs clearance process but he did not express disappointment with that as he thought that the use of bribe actually speeded up the procedure. He also complained about the inefficiency of the officials in identifying accurate HS code for the sophisticated product.

Mr. "J" was unhappy with inland road transportation in Bangladesh and mentioned about the ferry problem (in case of transportation through Mongla sea port or Benapole or some other

land ports) and traffic problem (recently in Chittagong highway road) that caused delay. He was more disappointed with the status of infrastructure in the Indian side and expressed his annoyance as no significant action was taken yet to develop the roads and infrastructure. In the interview, Mr. Sheikh admitted that the business environment in Bangladesh was somehow better compared to other trading partners of India in this region.

6.7. Mr. "H", Business Manager, "R" Ltd.

Mr. "H" is the business manager of a well known Bangladeshi company which has been conducting trade for more than a decade with India, Nepal and Bhutan. This company is exporting its products (automotive Battery) through Benapole port to India, Burimari port to Bhutan and Kakarvita to Nepal. Mr. "H" told that the trading procedure is quite similar whether it is with India or Bhutan or Nepal.

In the interview, Mr. "H" expressed his utmost annoyance for the lingering visa processing system of Indian embassy. According to him, the visa procedure is nothing but harassment. It usually takes 22-25 days to get an Indian visa for business trip which seems a heavily time consuming procedure to him. He added that the Indian embassy is reluctant to issue multiple-entry visa and sometimes even deny issuing visa. He urged for immediate effective steps from both governments to smooth the visa procedure which would eventually facilitate trade between this two countries.

The infrastructure at Benapole land port appeared to be satisfactory to him whereas he complained about the meager conditions at the Burimari and Kakorvita land ports. There is no mentionable warehouse facility at these ports and even no customs officer is available at Kakorvita. Though present volume of trade through Burimari and Kakorvita land port was petite, he hoped that this would increase if essential measures were taken for development and modernization of the ports.

He was of the view that harassment at customs clearance in both sides of boarders was not too often and the customs administrative charges were also sound. Mentioning his satisfaction about the road network between India and Bangladesh, he suggested for developing railway network as it would certainly be more cost effective. Besides he also put importance on automation at the ports to expedite the trade processing.

6.8. Mr. "M", Executive Director, "R" Tyres and Chemicals Ltd.

Mr. "M" is the Executive Director of an organization that has been doing business with India for the last 30 years. This firm usually imports rubber machineries, China clay and chemical products like carbon black, rubber chemicals by sea port as well as by truck through Benapole port.

According to Mr. "M", requirement of time at present for vessel management, for unloading products at the sea port, for processing customs clearance and for customs inspections was not high though it was much better in the recent past. He told that waiting of vessels outside the port and unloading vessels generally would take 3-5 days and customs clearance would be done within 4-5 days. However, inland transportation from Chittagong Sea port to Dhaka got worse in recent years because of poor conditions of the highway road and traffic congestion. He advocated for developing four-lane highway road infrastructure to facilitate transportation between port city and capital city.

He gave much importance to electronic submission and processing of documents, to alleviate the bureaucracy problems at government office and customs clearance, to increase the operating hours at customs and ports for facilitating the trading procedure. Besides he also talked about the harassment in getting Indian visa and urged for immediate measures to ease the procedure.

6.9. Mr. “P”, General Manager, “D” Group.

Mr. “P” is the General Manager of a renowned Bangladeshi company and has been serving the company for almost two decades. This well-established company has been exporting glass sheet to India and Nepal for last 5-6 years. Truck is the sole medium of transportation for exporting to India and Nepal through different land ports depending on destinations.

Alike other respondents, Mr. “P” is also not contented with the facilities at some land ports, especially at Banglabandha and Shonamasjid. He is of the view that that the process of customs clearance is quick enough as bribery actually speeds up this process.

Inland transportation, from the factory to land port, usually doesn’t cost too many days. The unusual delay in some occasions is mainly due to traffic jam and ferry problem. Mr. “P also talked about the problem of unavailability of truck and the high fare charged by the truck service providers. He pointed out that poor condition of roads to different land ports which, according to him, must be developed as early as possible for creating better trade opportunities. He also called for digitalization of trading procedure, modernization of the ports, inception of shift system to increase working hour at ports and customs for facilitating trade.

7. POLICY IMPLICATIONS AND CONCLUSION

In the case of market access, the analysis using the partial equilibrium model suggests that much of the potential of the rise in exports among the ESAS countries are restricted by the presence of stringent sensitive list under SAFTA. In recent years, India has liberalised its sensitive list to a great extent and most of the top export products from Bangladesh, Nepal and Bhutan to India are out of that sensitive list. However, there are concerns among the garment exporters in Bangladesh that their products are still in India’s sensitive list and furthermore they also face other forms of NTBs which restrict their export potentials in India. It is also learnt that

the sensitive lists of Bangladesh and Nepal for India re too stringent thus containing much of the export potentials from India to these countries. In contrast the sensitive list of Bhutan is the most liberalised one. It is thus suggested that in order to enhance market access of intra-regional exports among the ESAS countries there is a need to curb the sensitive list of the respective countries to a minimum.

Interviews with several firms in Bangladesh have helped to identify some critical factors which should be eased for substantial rise in exports from Bangladesh to India, Bhutan and Nepal. For the Bangladeshi exporters getting Indian visa is a cumbersome process. Most of the stakeholders termed the processing of Indian visa as harassment and viewed this as a crucial non-tariff barrier. There is a need for immediate actions by the governments of both countries in this regard.

Also, the conditions of both sea and land ports are far from satisfactory. There is need for further improvement at the Benapole land port and Chittaging sea port. But, substantial progress is needed in the cases of Burimari and Kakorvita land ports. Inefficiencies in ports aggravate the situation by eroding competitive advantage of the country further. It has also been found that ports in Bangladesh are plagued by labour problems, poor management, and lack of equipment. Inefficiency and excessive costs at ports are further exacerbated by poor customs services. Apart from the delay in obtaining customs clearance, the payment of 'extra' money is required to complete the formalities and procedure.

Most of the interviewees expressed dissatisfaction with the current status of inland transportation and road infrastructure. Inland transportation suffers from such problems as illegal toll collection, bad road communication, congestion at ferry-ghats, and frequent disruption in transportation due to political programmes and labour unrest. Inefficient and corrupt ports and inland transportation increase the cost of production substantially. Under this circumstance, many exporters find it extremely difficult to compete in the global market.

The state of physical infrastructure is weak in Bangladesh. Poor infrastructure requires firms to devote more resources to such tasks as procuring inputs and getting their products to market. All this can undermine the competitiveness of exporting enterprises. There are two dimensions of poor infrastructure – one is the unavailability of a certain service or utility (such as telephone, water, electricity, roads and highways, etc.) and the other is the unreliability of the services provided. In Bangladesh there are problems on both fronts.

It can also be argued that NTBs in India and in other South Asian countries is holding back the export potentials of Bangladesh to these countries. To do away with the trade-impeding effects of these measures, there should be mutual recognition agreements among respective organizations of Bangladesh and its trading partners in South Asia, and in particular with India. There is also a need for harmonization of TBT and SPS measures. It can further be argued that the accreditation bodies or agencies of India may set up accreditation centres in Dhaka in collaboration with designated national Agency of Bangladesh to facilitate mutual cooperation with necessary capacity building under technical and financial assistance. Non-acceptability of conformity assessment certificates of any particular product, if and when arise, should be resolved by mutual cooperation programmes without restricting its trade. It is also important to note that non tariff measures (NTMs) and para-tariff measures (PTMs) not notified in WTO should be prohibited. A code of good practice should be followed before introduction of any new NTMs.

The analyses in this report suggest that there is a need for economic corridor among the ESAS countries comprising Bangladesh, India, Nepal and Bhutan. Reduction in tariffs together with elimination of sensitive lists will enhance the market access of these countries. Also, improved trade facilitation helps increase market access. Sustaining the market access benefits on equitable term is important in medium to long run. An economic corridor would help the countries in the region to better integrate it globally. Higher trade can only boost the confidence of countries to do away with trade restrictions (causality probably runs unidirectional).

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ANNEX 1: THE GTAP MODEL

The GTAP model is a comparative static, global computable general equilibrium model, and is based on neoclassical theories.[8] The GTAP model is a linearised model, and uses a common global database for the CGE analysis. The model assumes perfect competition in all markets, constant returns to scale in all production and trade activities, and profit and utility maximising behaviour of firms and households respectively. The model is solved using the software GEMPACK (Harrison and Pearson, 1996).

Household income and expenditure

In the GTAP model each region has a single representative household, termed as the regional household. The income of the regional household is generated through factor payments and tax revenues (including export and import taxes) net of subsidies. The regional household allocates expenditure over private household expenditure, government expenditure and savings according to a Cobb Douglas per capita utility function. Thus each component of final demand maintains a constant share of total regional income.[9]

The private household buys commodity bundles to maximise utility subject to its expenditure constraint. The constrained optimising behaviour of the private household is represented in the GTAP model by a Constant Difference of Elasticity (CDE) implicit expenditure function. The private household spends its income on consumption of both domestic and imported commodities and pays taxes. The consumption bundles are Constant Elasticity of Substitution (CES) aggregates of domestic and imported goods, where the imported goods are also CES aggregates of imports from different regions. Taxes paid by the private household cover commodity taxes for domestically produced and imported goods and the income tax net of subsidies.

[8] Full documentation of the GTAP model and the database can be found in Hertel (1997) and also in Dimaranan and McDougall (2002).

[9] Savings enter in the static utility function as a proxy for future consumption

The government consumption

The government also spends its income on domestic and imported commodities and also pays taxes. For the government, taxes consist of commodity taxes for domestically produced and imported commodities. Like the private household, government consumption is a CES composition of domestically produced goods and imports.

Savings and Investment

In the GTAP model the demand for investment in a particular region is savings driven. In the multi country setting the model is closed by assuming that regional savings are homogenous and contribute to a global pool of savings (global savings). This is then allocated among regions for investment in response to the changes in the expected rates of return in different regions. If all other markets in the multi regional model are in equilibrium, if all firms earn zero profits, and if all households are on their budget constraint, such a treatment of savings and investment will lead to a situation where global investment must equal global savings, and Walras' Law will be satisfied.

Producers' income

In the GTAP model, producers receive payments for selling consumption goods and intermediate inputs both in the domestic market and to the rest of the world. Under the zero profit assumption employed in the model, these revenues must be precisely exhausted by spending on domestic intermediate inputs, imported intermediate inputs, factor income and taxes paid to regional household (taxes on both domestic and imported intermediate inputs and production taxes net of subsidies).

Production technology

In the GTAP model a nested production technology is considered with the assumption that every industry produces a single output, and constant returns to scale prevail in all markets. Industries have a Leontief production technology to produce their output. Industries maximise profits by choosing two broad categories of inputs namely, a composite of factors (value added) and a composite of intermediate inputs. The factor composite is a CES function of labour, capital, land and natural resources. The intermediate composite is a Leontief function of material inputs, which are in turn a CES composition of domestically produced goods and imports. Imports are sourced from all regions.

International trade

The GTAP model employs the Armington assumption which provides the possibility to distinguish imports by their origin and explains intra-industry trade of similar products. Following the Armington approach import shares of different regions depend on relative prices and the substitution elasticity between domestically and imported commodities.

ANNEX 2: COMMODITY CLASSIFICATION IN THE GTAP MODEL

No.	Sector Description	No.	Sector Description
1	Paddy rice	30	Wood products
2	Wheat	31	Paper products, publishing
3	Cereal grains nec	32	Petroleum, coal products
4	Vegetables, fruit, nuts	33	Chemical, rubber, plastic prods
5	Oil seeds	34	Mineral products nec
6	Sugar cane, sugar beet	35	Ferrous metals
7	Plant-based fibers	36	Metals nec
8	Crops nec	37	Metal products
9	Cattle, sheep, goats, horses	38	Motor vehicles and parts
10	Animal products nec	39	Transport equipment nec
11	Raw milk	40	Electronic equipment
12	Wool, silk-worm cocoons	41	Machinery and equipment nec
13	Forestry	42	Manufactures nec
14	Fishing	43	Electricity
15	Coal	44	Gas manufacture, distribution
16	Oil	45	Water
17	Gas	46	Construction
18	Minerals nec	47	Trade
19	Meat: cattle, sheep, goats, horse	48	Transport nec
20	Meat products nec	49	Sea transport
21	Vegetable oils and fats	50	Air transport
22	Dairy products	51	Communication
23	Processed rice	52	Financial services nec
24	Sugar	53	Insurance
25	Food products nec	54	Business services nec
26	Beverages and tobacco products	55	Recreation and other services
27	Textiles	56	Public admin/Defense/Health/Education
28	Wearing apparel	57	Dwellings
29	Leather products		

ANNEX 3: REGION AGGREGATION IN THE GTAP MODEL

No.	New Region	Comprising Old Regions
1	Bangladesh	Bangladesh
2	India	India
3	Pakistan	Pakistan
4	Sri Lanka	Sri Lanka
5	Rest of South Asia	Rest of South Asia
6	North America	Canada; United States of America; Mexico; Rest of North America
7	EU_25	Austria; Belgium; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; Netherlands; Poland; Portugal; Slovakia; Slovenia; Spain; Sweden; United Kingdom
8	Rest of the World	Australia; New Zealand; Rest of Oceania; China; Hong Kong; Japan; Korea; Taiwan; Rest of East Asia; Cambodia; Indonesia; Lao People's Democratic Republic; Myanmar; Malaysia; Philippines; Singapore; Thailand; Viet Nam; Rest of Southeast Asia; Argentina; Bolivia; Brazil; Chile; Colombia; Ecuador; Paraguay; Peru; Uruguay; Venezuela; Rest of South America; Costa Rica; Guatemala; Nicaragua; Panama; Rest of Central America; Caribbean; Switzerland; Norway; Rest of EFTA; Albania; Bulgaria; Belarus; Croatia; Romania; Russian Federation; Ukraine; Rest of Eastern Europe; Rest of Europe; Kazakhstan; Kyrgyzstan; Rest of Former Soviet Union; Armenia; Azerbaijan; Georgia; Iran Islamic Republic of; Turkey; Rest of Western Asia; Egypt; Morocco; Tunisia; Rest of North Africa; Nigeria; Senegal; Rest of Western Africa; Central Africa; South Central Africa; Ethiopia; Madagascar; Malawi; Mauritius; Mozambique; Tanzania; Uganda; Zambia; Zimbabwe; Rest of Eastern Africa; Botswana; South Africa; Rest of South African Customs